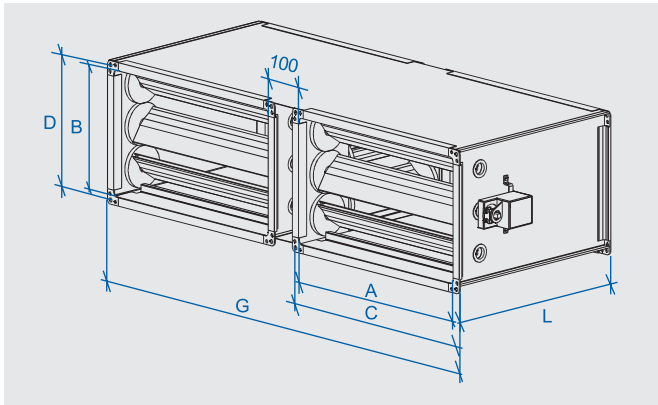


## SKX Mixing Sections



	A	B	C	D	G	L	m ±10%	graph
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(curve no)
SKX 40-20/24	400	200	420	220	940	390	19	2 1
SKX 50-25/24	500	250	520	270	1140	440	25	2 2
SKX 50-30/24	500	300	520	320	1140	490	33	1 1
SKX 60-30/24	600	300	620	320	1340	490	36	2 1
SKX 60-35/24	600	350	620	370	1340	540	41	2 2
SKX 70-40/24	700	400	720	420	1540	590	45	1 1
SKX 80-50/24	800	500	820	520	1740	690	56	1 1
SKX 90-50/24	900	500	930	530	1960	790	68	1 1

### Application

SKX air mixing sections are intended for continuous mixing of fresh and circulating air. The mixing ratio can be adjusted by three tight blade dampers which are mechanically interconnected. The dampers are handled by an actuator controlled by the control unit. Two parallel dampers in the SKX section can also ensure the closing function.

### Operating Conditions and Position

Mixing sections are designed for indoor and outdoor 1) applications in air flow free of solid, fibrous, sticky, aggressive, respectively explosive impurities. Operating position is arbitrary, and the range of operating temperatures can be from -20 °C to +50 °C. Pressure loss - air flow rate - mixing mode correlation is shown in the graph "Blade damper pressure losses".

### Dimensional and Type Range

The air mixing sections are manufactured in eight dimensional ranges, from 40-20 to 90-50.

### Materials

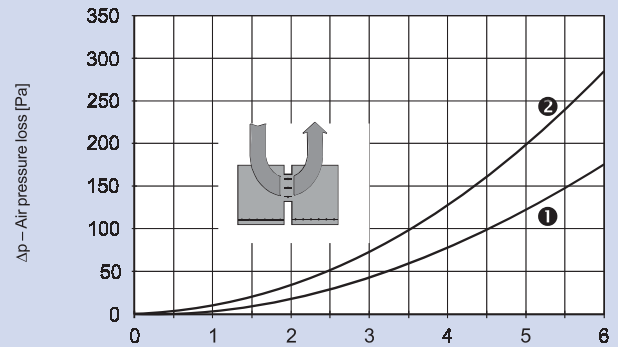
The external casing and connecting flanges are made of galvanized steel sheets. The connecting bar flanges are 20 mm or 30 mm (for size 90-50) high. Contra-rotating vanes (blades) are made of galvanized, hollow sectional steel. Individual blades are equipped with elastic plastic sealing so that the edge of one blade fits in the sealed groove of the other. Side sealing is ensured by plastic tooth-wheels and their bearings, which are also made of plastic.

As standard, the SKX air mixing section is equipped with an NM 24A-SR actuator.

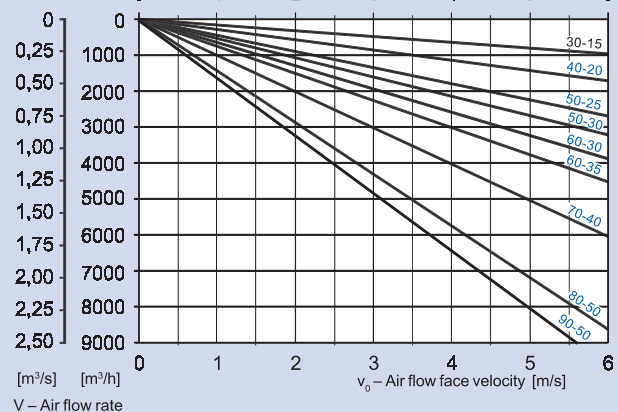
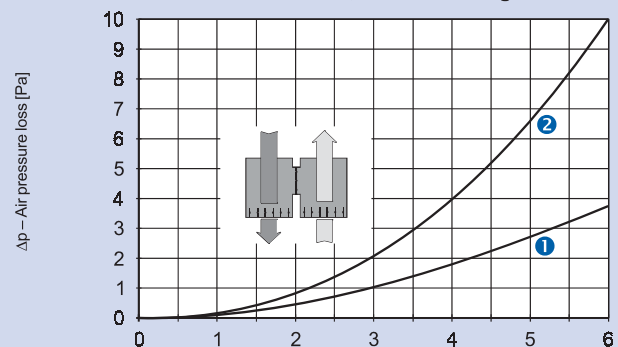
### Actuator

The actuator is proportionally set to the position given by the unified control signal of 0 to 10V. Measuring voltage signal U serves as a feedback signal for an electrical representation of the damper position 0...100 %. The angle of the damper shift can be gradually adjusted by an integrated potentiometer. Measuring voltage signal U is automatically adapted in the actuator.

**SKX Mixing Section Pressure Loss Chart**  
0% fresh air, 100% circulating air



100% fresh air, 0% circulating air



### Example of designation

#### SKX 60 - 30 / 24



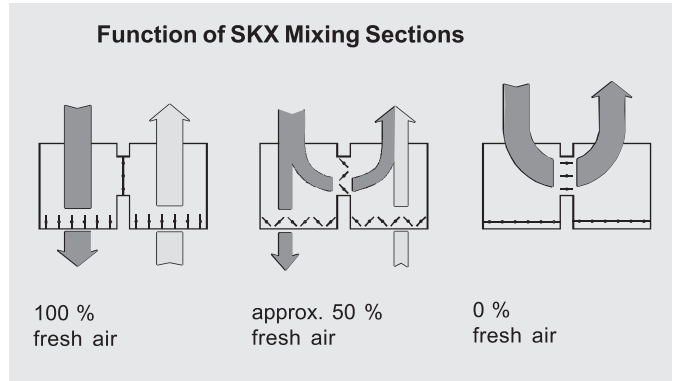
Manual adjustment can be performed using the release button (the gear is taken out of operation as long as this button is pressed). After releasing this button, the actuator will return to the default position.

(1) If exposed to intensive moisture condensation or weather conditions, it is necessary to coat the dampers with anticorrosive paint and provide the actuator and movable elements with protective shielding against direct effect of precipitation.

## SKX Mixing Sections

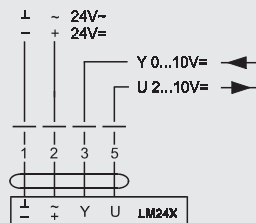
### Installation, Maintenance and Service

Before installation, paste self-adhesive sealing onto the connecting flange face. To connect the flanges, use galvanized M8 screws and nuts. It is necessary to ensure conductive connection of the flange using fan-washers placed on both sides at least on one flange connection. To brace the flanges with a side longer than 40 cm, it is advisable to connect them in the middle with another screw clamp which prevents flange bar gapping. If installed into a ceiling, space for the opening enabling inspection of the actuator must be taken into account. The mixing section must not be exposed during installation or operation to any torsion. After installation, it is necessary to check free movement of the blades by pressing the release button on the actuator. Deformed blades can cause increased resistance, and the actuator will be automatically stopped. The wiring connection can be performed via the wiring terminal box. The actuator is equipped with a 1m-long 3 x 0.75 mm<sup>2</sup> cable.



#### Actuator wiring diagram

SKX ... /24



#### Technical Data - LM 24 X Actuator

Power supply voltage	24V~ ±20%, 50/60Hz, 24V= ±10%
Dimensioning, input power	4VA, 2W
Control signal Y	0...10V=, impedance 100kΩ
Working range	2...10V= (for the set working angle)
Measuring voltage signal U2	2...10V=, ≤ 0,5mA (for the set working angle)
Direction of rotation	can be selected by the left/right (L/R) selector
Manual adjustment	using the button, automatic return to the default position
Torque	min. 4Nm (at the rated voltage)
Working angle	max. 95° (adjustable by the potentiometer within the range 20...100%)
Adjustment time	80...110s (0...4Nm)
Noise level	max. 35dB (A)
Position indicator	mechanical
Protection Class	III (low voltage)
Degree of protection	IP54

### Recommended Connections of LKS(F), LKSX, SKX Mixing Sections in Vento System Assemblies

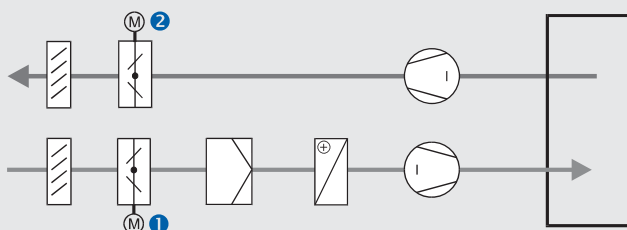


Figure A

Figure A shows an air-handling system equipped with an inlet ❶ and an outlet ❷ damper. LKS ... /24 (or LKS ... /230) mixing sections are mostly used in this or similar situations. If the air-handling assembly is equipped with a water heater, it is recommended to use the LKSF ... /230 mixing section type as an inlet damper ❶. With a simpler air-handling assembly without heating or with electric heating, the outlet damper ❷ and PZ louver can be replaced with a PK pressure damper.

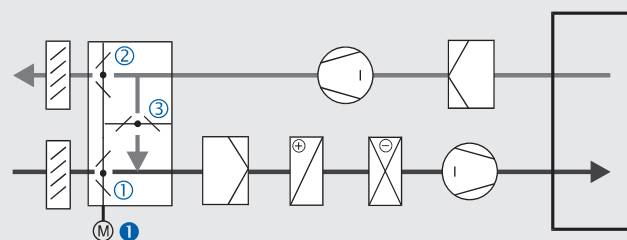


Figure B

Figure B shows an air-handling system with air mixing using the SKX ... /24 air mixing section ❶. This section is consistently equipped with three integrated dampers from which dampers ❶❷, also provide inlet and outlet closing functions. The contra-rotating damper ❸ is a mixing damper. If the air mixing section cannot be used, it is possible to ensure the same functions using three individual LKSX ... /24 dampers in a similar arrangement ❶❷❸. The dampers are controlled by the common control signal from the control unit. The contra-rotating damper ❸ operation can be set by the selector on the actuator.

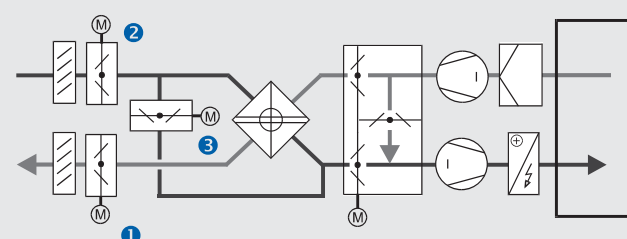


Figure C

Figure C shows an air-handling system with a heat exchanger and an air mixing section. If a heat exchanger is used in the assembly, it is possible to use the SKX air mixing section; however, air mixing must be situated between the heat exchanger and the room. In this case, the fans cannot be situated arbitrarily. Inlet and outlet closing must be ensured using the LKS ... /24 (or LKS ... /230) dampers ❶ and ❷. The air-handling assembly can also be equipped with a heat exchanger bypass which is controlled by the LKS ... /24 (or LKS ... /230) closing damper ❸. The heat exchanger's bypass can be used especially to protect the heat exchanger against ice build-up, or as a seasonal bypass.